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Joseph S Tripoli
Thomson Licensing Inc
PO Box 5312
Princeton, NJ 08543-5312

EXAMINER	
LAI, ANDREW	

ART UNIT	PAPER NUMBER
2416	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/518,670	CHRISTENSEN ET AL.	
	Examiner	Art Unit	
	ANDREW LAI	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 21 January 2009.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 1-10,17,18,20 and 21 is/are allowed.

6)☒ Claim(s) 11-16 and 19 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Examiner's Notes

Throughout this Office Action, unless otherwise noted, the following notations are used for identifying the place of cited texts in a reference:

c:m-n: "column c lines m-n" for (usually) a US patent;
p.p&m-n: "page p line m-n" for (usually) a foreign patent or paten application
[p]/m-n: "paragraph p lines m-n" for (usually) a US patent application publication

Note also that in the following discussion the term "digital-audio" is used where necessary for Applicant's "digital audio". This is purely for the convenience of concise and combined writing where "digital audio data" is presented together with "digital data".

Note further that, when citing the teachings of various arts below, some words/terms/phrases are underlined by the Examiner for emphasis purposes.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 11-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boduch et al (US 6,667,954, Boduch hereinafter) in view of Humphrey et al (US 6,246,681, Humphrey hereinafter) and further in view of Hurlocker (US 6,320,860).

- **With respect to Independent claims 11 and 19**

Boduch provides a “method and apparatus for selecting the better of two or more copies of any given cell from the received cell streams” (2:28-30) comprising the following features:

Regarding claim 11 / 19, *for a router* (see “a cell-oriented redundant switching system”, Abstract line 3 and fig. 1) *having an input card* (fig. 1 “ingress port module 104”), *a first router matrix card and a second router matrix card* (fig. 1 items 107 and 108 and see “there are two copies of a redundant switch network, switch network copy 107 and switch network copy 108”, 3:38-39, noting that each of said copies is fed into a “STS mapping 225” card, fig. 2, of which the structure is further detailed in fig. 4), *said input card transmitting a set of N input digital-audio / digital data streams* (refer to fig. 1 item 103 and see “a signal 103 comes into the redundant switching system 100 to an ingress port module 104. Signal 103 may be a SONET <u>stream</u> consisting of multiple <u>STS-N</u> payloads. The ingress port module 104 splits the signal 103”, 3:39-43) *to said first router matrix card and said second router matrix card* (still refer to fig. 1 and see “The ingress port module 104 splits the signal 103 into two identical signals, signal 105 and signal 106”, 3:42-44, and “signal 105 and signal 106 are passed to redundant switch network copies 107 and 108, respectively”, 3:51-52, wherein “signals 105 … are characterized as composite <u>cell streams</u>”, 3:48-49, which input multiple "composite cell stream<u>s</u>" must be of an integer number *N*), *said first router matrix card outputting a first set of M output digital-audio / digital data streams and said second router matrix outputting a second, replicated set of M output digital-audio / digital data streams* (refer to fig. 1 and see “After signal 105 is <u>input</u> to switch network copy 107, the signal is

routed through switch network copy 107 and output as signal 111. After signal 106 is input to switch network copy 107, the signal is routed through switch network copy 108 and output as signal 112", 3:59-64, wherein "signals … 111 … are characterized as composite cell streams", 3:48-49, which output multiple "composite cell streams" again must be of an integer number *M* that may or may not be equal to *N* depending on implementation), *a method of selecting one of said first and second sets of M output digital-audio / digital data streams as the output of said router* (refer still to fig. 1 and see "The egress port module 109 determines whether signal 111 or signal 112 will be sent on to the customer's network as output signal 113", 3:65-67), *wherein M and N are integers* (inherently so because the above cited multiple numbers of input/output "composite cell streams" cannot be fractional numbers), *comprising:*

propagating said first set of M output digital-audio / digital data streams through at least one component of said firs router matrix card (fig. 1 depicting input stream 105 passing through network copy 107);

each one of said at least one component of said first router matrix card adding at least one bit of information (refer to fig. 2 which "depicts a block diagram of the cell stream alignment best cell copy selection ASIC 110", 4:44-45, note "Cell Over Head Extract/Monitor 201" and see "The cell overhead extractor/monitor 201 may also provide error counts for each stream emanating from each switch network copy", 5:2-4, noting that said error counts must be based on *bit of information* being *added to said first set of data streams* by the *component* prior to said cell overhead extractor/monitor, as implied "the composite cell stream errors being determined by devices external to the best cell

copy selection [ASIC 110 of fig. 1] itself", 6:6-8, noting that the only possible *component* external thereto will have to be within "switch network copies 107 and 108" as depicted in fig. 1);

propagating said second set of M output digital-audio / digital data streams through at least one component of said second router matrix card (fig. 1 depicting input stream 106 passing through network copy 108);

each one of said at least one component of said second router matrix card adding at least one bit of information (refer to fig. 2 which "depicts a block diagram of the cell stream alignment best cell copy selection ASIC 110", 4:44-45, note "Cell Over Head Extract/Monitor 201" and see "The cell overhead extractor/monitor 201 may also provide error counts for each stream emanating from each switch network copy", 5:2-4, noting that said error counts must be based on *bit of information* being *added to said first set of data streams* by the *component* prior to said cell overhead extractor/monitor, as implied "the composite cell stream errors being determined by devices external to the best cell copy selection [ASIC 110 of fig. 1] itself", 6:6-8, noting that the only possible *component* external thereto will have to be within "switch network copies 107 and 108" as depicted in fig. 1);

selecting one of said first and second sets of M output digital-audio / digital data streams as the output of said router based upon a comparison of said at least one bit of information added to said first set of M output digital-audio / digital data streams to said at least one bit of information added to said second set of M output digital-audio / digital data streams (still refer to figs. 1 and 2 and see "the best cell copy selection ASIC 110

invokes the copy selector 206 to select the better of the two copies of each cell to be sent on to the customer network. The term ‘better’ refers to the cell that arrives at egress port 109 of FIG. 1 with fewest errors, and the selection is made on a cell-by-cell basis” 10:35-40, noting that the term cell-by-cell basis will inevitably involving *switching from* previously *selected streams* to previously *unselected streams*, depending on which of the two copies of the next cell has fewest errors in it).

Boduch does not disclose, regarding claims 11 and 19, said multiple integer number *N/M input/output* “composite cell streams” have *M different from N* and they, to/from said switch network copies 107/108, and “cell-oriented redundant switching system” (*router*) is a ***broadcast*** router.

Humphrey discloses “a system for selecting one of two or more parallel planes of data” (Abstract lines 1-2) which “allows planes to be switched on a packet-by-packet basis” (1:65-67) consisting of an “optical fiber-capable telecommunication switch system 10 (fig. 1) further comprising:

Regarding claims 11 / 19, said multiple integer number *N/M input/output* “composite cell streams” have *M different from N* (fig. 4, see, for example, "data conversion” cards 128 and 130 taking *N* = 32 input streams and sending *M* = 10 output streams wherein, as expressly shown, *M* (10) *is different from N* (32). It should be noted, as a matter of fact, that whether *M* = *N* or *M* ≠ *N* and what particular values of *M* and *N* are is entirely an issue of implementation requirement/need and/or design choice/option imposing no technical difficulty and/or novelty to one skilled in the art at the time of the present invention) *and*

said switch system being a *broadcast router* (refer to fig. 1 and see “Fiber optic connection unit 14 receives digitally encoded optical data from fiber optic conductor 18, performs broadcast switching of the data streams received from fiber optic conductor 18”, 4:5-8).

It would have also been obvious to one of ordinary skill in the art at the time of the invention to modify the method/system of Boduch by adding the broadcast feature of Humphrey to Boduch in order to provide a better system “that substantially eliminates or reduces disadvantages and problems associated with previously developed systems and methods for data plane selection”, as pointed out by Humphrey (1:39-42).

As discussed above, Boduch discloses “provide error counts for each stream emanating from each switch network copy" reading on *each one of said at least one component of said first* and *second router matrix card adding at least on bit of information.* Boduch however does not disclose said “error counts” information being added ***to*** said first and second set of M output digital audio-data / digital streams propagating therethrough (Boduch's error count is provided, as depicted in fig. 2 therein, externally to "copy selector 206” using signal line 207 carrying "CDV FIFO status" signal).

Hurlocker discloses an invention that “is to provide ATM path switched ring switching criteria” (1:23-24) wherein path determination "comprises the steps of computing a running average of a sum of path bit-interleaved-parity (BIP) error counts for each right segment and selecting the preferred ring segment as the one having the

lowest BIP error count" (1:37-40) using "ring segment OAM system management cell" (fig. 1) comprising the following features:

Regarding claims 11 / 19, each node adding one bit of information ***to*** said first and second set of M output digital-audio / digital data streams (note firstly fig. 1 depicting a "segment BIP" field in the "ring segment OAM system management cell", and secondly in view of fig. 2 and see for each intermediate node such as nodes 14, 16, 18 in fig. 1 "ten millisecond running average of the SONET/SDH path BIP error count is added to the ring segment BIP count in an incoming ring segment OAM cell and the sum is used as the new ring segment BIP count in the outgoing ring segment OAM cell", 2:58-62; and finally see, in view of fig. 1 "At the output node 18, containing two BIP output processors, one 36 for path 20, on 34 for path 22, 24 and 26, a service selector can choose the better side by comparing the ring segment BIP counts. The selector can switch, for example, on loss of ring segment OAM cell or segment BIP", 2:66 – 3:3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Boduch by adding the in-frame error indicator of Hurlocker to Boduch in order to build more efficient and effective "solution to provide fast switching independent of the cell traffic" (Burlocker, 1:15-16).

- **With respect to Dependent claims**

Boduch discloses the following features:

Regarding claim 12, *wherein said at least one bit of information is comprised of at least one status bit* (see fig. 6B logic steps 605, 606 and 609 all discloses checking if "cell from network copy A/B arrives with bit error status bit set to FALSE?").

Regarding claim 13, *wherein said at least one bit of information is comprised of at least one health bit* (see fig. 6B logic steps 605, 606 and 609 all discloses checking if "cell from network copy A/B arrives with bit error status bit set to FALSE?", which status comprises also the condition of cell sequence number "out of seq" as depicted fig. 3 block 301).

Regarding claim 14, *wherein selecting one of said first and second sets of M output digital audio data streams as the output of said router further comprises:*

determining a first/second sum by adding said at least one bit added to said first/second set of M output digital audio data streams (refer to fig. 2 and see "The cell overhead extractor/monitor may also provide error counts for each stream emanation from each switch network copy", 5:2-4, which error counts will, as obvious to one skilled in the art, necessarily involve *determining a sum by adding said bit*).

Selecting one of said first and second sets of N output digital audio data streams as the output of said router based upon a comparison of said first sum to said second sum (see "the best cell copy selection ASIC 110 invokes the copy selector 206 to select the better of the two copies of each cell to be sent on to the customer network. The term 'better' refers to the cell that arrives at egress port module 109 of FIG. 1 with fewest errors", 10:35-39, noting such determination for fewest errors will have to first make *a comparison of the* error *sums* of the two streams).

Regarding claim 15, *the method of claim 11, and further comprising:*

checking a first and second set of M output digital audio data streams for errors (refer to fig. 2 and see "The cell overhead extractor/monitor 201 may also provide error counts for each stream emanating from each switch network copy", 5:2-4)

selecting one of said first and second sets of M output digital audio data streams as the output of said router (refer to fig. 1 and see "The egress port module 109 determines whether signal 111 or signal 112 will be sent on to the customer's network as out put signal 113", 3:64-67) *based upon the presence of errors in said first set of N output digital audio data streams* (refer to figs. 1 and 2 and see "the best cell copy selection ASIC 110 invokes the copy selector 206 to select the better of the two copies of each cell to be sent on to the customer network. The term 'better' refers to the cell that arrives at egress port 109 of FIG. 1 with <u>fewest errors</u>, and the <u>selection</u> is made on a <u>cell-by-cell basis</u>" 10:35-40) *… and said comparison of said at least one bit of information added to said first set of M output digital audio data streams to said at least one bit of information added to said second set of M output digital audio data streams* (refer to fig. 6B and see steps 605, 606 and 609 showing checking and comparing "dell from network copy A or B arrives with bit error <u>status bit</u> set to FALSE?").

Regarding claim 16, *the method of claim 15, wherein selecting one of said first and second sets of M output digital audio data streams as the output of said router further comprises:*

determining a first/second sum by adding said at least one bit added to said first/second set of M output digital audio data streams (refer to fig. 2 and see "The cell overhead extractor/monitor may also provide <u>error counts</u> for each stream emanation

from each switch network copy", 5:2-4, which error counts will, as obvious to one skilled in the art, necessarily involve *determining a sum by adding said bit*).

selecting, one of said first and second sets of M output digital audio data streams as the output of said router (refer to fig. 1 and see "The egress port module 109 determines whether signal 111 or signal 112 will be sent on to the customer's network as out put signal 113", 3:64-67) *based on … and a comparison of said first sum to said second sum* (see "the best cell copy selection ASIC 110 invokes the copy selector 206 to select the better of the two copies of each cell to be sent on to the customer network. The term 'better' refers to the cell that arrives at egress port module 109 of FIG. 1 with fewest errors", 10:35-39, noting such determination for fewest errors will have to first make *a comparison of the* error *sums* of the two streams).

Boduch does not disclose the following features: regarding claim 15, *encoding parity information into said first/second set of N input digital audio data streams prior to transmission of said input digital audio data streams to said first/second router matrix of said first/second router matrix card, said first/second set of M output digital audio data streams output from said first/second router matrix being a first/second set of M parity encoded digital audio data streams; selecting parity encoded streams based upon … the presence of parity errors in said second set of N output streams*; regarding claim 16, said selecting *based upon the presence of parity errors in said first/second set of M parity encoded output data streams.*

Humphrey teaches the above features missing from Boduch, particularly:

Regarding claim 15, *encoding parity information into said first/second set of N input digital audio data streams prior to transmission of said input digital audio data streams to said first/second router matrix of said first/second router matrix card, said first/second set of M output digital audio data streams output from said first/second router matrix being a first/second set of M parity encoded digital audio data streams;* and *selecting parity encoded streams based upon … the presence of parity errors in said second set of N output streams.*

Regarding claim 16, said selecting *based upon the presence of parity errors in said first/second set of M parity encoded output data streams*

(see fig. 4 for "parity check 120" circuit and "DS0 parity generation 126" circuits, noting especially the feature of <u>9 input</u> streams thereto and <u>10 output</u> streams therefrom, and see further "DS-0 parity generation is performed by DS-0 parity generation circuit 126. This DS-0 format data is transmitted in a 10-bit parallel data stream from data formatter circuit 84", 11:23-26).

Also, in general *parity encoding* is a well known, well established and widely used error detection/correction technique in the art, as Newton's Telecom Dictionary (16^{th} Edition, February 2000, ISBN # 1-57820-053-9) recites, "**Parity** A process for detecting whether bits of data (parts of characters) have been altered during transmission of the data. Since data is transmitted as a stream of bits with values of one or zero, each character of data composed of, say seven bits has another bit added to it. The value of that bit is chosen so that either the total number of one bits is always even if Even Parity error correction is to be obeyed or always Odd if Odd Parity error

correction is chosen" (p.632, right column, the entry for **Parity**). Therefore, it would have been obvious, in general, for one skilled in the art at the time of the invention to have easily thought of incorporating *parity encoding* and *parity error checking*, as an alternative or addition, to Boduch already disclosed error checking/correction method in order to provide more ways of data stream selection. It should be noted that such addition would necessarily result in *M parity encoded output streams* from *N parity encoded input streams*.

It would have also been obvious, in particular, to one of ordinary skill in the art at the time of the invention to modify the method/system of Boduch by adding the particular parity generating and checking method of Humphrey to Boduch in order to provide a better system "that substantially eliminates or reduces disadvantages and problems associated with previously developed systems and methods for data plane selection" (Humphrey, 1:39-42).

Allowable Subject Matter

3. Claims 1-10 and 17, 18, 20 and 21 are allowed.

Regarding claims 1-10, 17 and 18, Examiner indicated, in previous Office Action of 4/1/2008, that the following underlined feature in previous claim 5 appears to be allowable: switching from selected data stream to unselected data stream "*regardless of whether a parity error is present in said unselected one of said first and second sets of M parity encoded output digital audio data streams*" because the conventional arts would make such switching only when the unselected stream has no error. In response, Applicant amended Independent claims 1 and 18 by incorporating

thereto the underlined feature hereinabove, making independent claims 1 and 18 allowable together with claims 2-10 and 17, which depend from claim 1.

Regarding claims 20 and 21, Examiner indicated, in previous of Office Action of 9/18/2008, that these two claims are allowed for containing essentially the same feature underlined above, said allowance is hereby maintained.

Response to Arguments

4. Applicant's arguments filed on 1/21/2009 regarding Independent claims 11 and 19 have been fully considered but they are not persuasive.

Applicant's argument in this regard is directed to the combinability of Boduch with Hurlocker with an allegation that "any combination of Hurlock with Boduch is improper for lacking sufficient motivation therefor" (Remarks page 15 second paragraph), wherein Boduch is the primary reference and Hurlock is one of the secondary references applied for teaching adding a bit of information to an error count field of output data stream.

The first reason the Applicant gave is, "Boduch neither adds nor shows any desire or ability to add the error counts to any data stream", "Boduch does not teach, show, or suggest the inclusion of counts in his bit streams" and "does not present a structure in his data stream which would even remotely suggest that such error counts could be added to the data stream. Boduch does not even offer a suggestion that, if there were room in the data stream, he would like to add such error counts to the data stream" (page 15 second paragraph).

Examiner respectfully disagrees.

As Applicant admitted, Boduch does "generate error counts in the processing of the data streams" (page 15 second paragraph). Examiner would like to point out that, not only

does Boduch "generate error counts in the processing of the data streams", but also "provide error counts for each stream emanating from each switch network copy", as recited in previous as well as present Office Action, and byte-interleaving using a "byte interleaver" (fig. 2 item 205), the two features in combination offer the "room in the data stream", as well as "ability" or mechanism, for "inclusion of counts in his streams" and "does present a structure" that "such error counts could be added". In other words, Boduch clearly discloses *adding at least one bit of information* for "each stream emanating from each switch network copy". All that is not expressly taught therein is where such *bit of information* is added to. Hurlocker readily provides such *bit of information* being added to a segment BIP or Bit-Interleaved-Parity field of a data stream. Therefore, it would have been obvious to one skilled in the art, having the room and mechanism provided by Boduch and the explicit BIP field (noting it's a bit-interleaved-parity, which can be directly incorporated into Boduch's "byte interleaver") by Hurlocker, to combine the two in order to provide a better system "that substantially eliminates or reduces disadvantages and problems associated with previously developed systems and methods for data plane selection" (Humphrey, 1:39-42). Regarding the so-called "desire" Applicant alleged Boduch lacked, Examiner respectfully points out it is irrelevant simply because it is generally impossible for an inventor to foresee, reveal and/or explicitly disclose all possible additions to or improvements upon his/her invention and the desire therefor; just as it was impossible for Alexander Bell to foresee Voice-over-IP on top of his telephony invention. What's relevant is whether a taught/existing addition or improvement on top of another

taught/existing invention is technically impossible (such as whether the addition of the former may destroy the principle of the operation of the latter) and if there is a benefits and thus motivation therefor.

The second reason the Applicant gave is "Hurlocker does not suggest the addition of error counts to each copy of an incoming data stream. Hurlocker merely updates the error count " (page 15 third paragraph).

Examiner respectfully points out that this is again irrelevant because such "error counts to each copy of an incoming data stream" has already been taught in Boduch, see "provide error counts for each stream emanating from each switch network copy" (Boduch, 5:2-4).

Lastly, Examiner noticed the argument Applicant made for claims 1 and 18 regarding the citation of **parity** of *Newton's Telecom Dictionary*, which appears to be applicable to claims 10 and 19. Applicant argues (page 13 fifth paragraph) "it is believed that this reference is improperly introduced for the purpose of rejection and cannot be used to establish the ground for rejection" because "no mention is made to *Newton's Telecom Dictionary* in making the present rejection under 35 U.S.C. §103".

Examiner would like to respectfully point out that the rejection is indeed specifically made on the ground of Boduch in view of Humphrey and further in view of Hurlocker. The only purpose of mentioning *Newton's Telecom Dictionary* is to serve as a demonstration for how notoriously old and well known "*parity encoding*" has become in the art at the time of instant invention. Regardless of such generally known technique in the art, Examiner provides a particular/specific teaching from Humphrey and bases

the rejection on the particular/specific teaching thereof, rather than a general description for "parity encoding" from a dictionary.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW LAI whose telephone number is (571)272-9741. The examiner can normally be reached on M-F 7:30-5:00 EST, Off alternative Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Lai/
Examiner, Art Unit 2416

/Kwang B. Yao/
Supervisory Patent Examiner, Art Unit 2416